

Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: Slawson Exploration Company, Inc.
Well Name/Number: Renegade No. 1-10H
Location: SE SW Section 10 T26N R59E
County: Roosevelt, MT; Field (or Wildcat) Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 25-35 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick rig 1000 HP to go to 13,971' MD/10,217' TVD.

Possible H₂S gas production: Slight

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments:

Water Quality

(possible concerns)

Salt/oil based mud: Yes to intermediate casing string hole to be drilled with oil based invert drilling fluids. Horizontal lateral will be drilled with produced brine water. Surface casing hole to be drilled with freshwater and freshwater mud.

High water table: High water table possible.

Surface drainage leads to live water: No, closest drainage is the Missouri River, about ½ of a mile from this location to the west and south.

Water well contamination: No, nearby water wells are shallow in depth. Closest water wells are about ¼ of a mile to ½ of a mile from this location. Depth of these wells are 800' and less. Surface casing will be drilled with freshwater, casing set to 1585' and steel casing set at 1585' and cemented back to surface.

Porous/permeable soils: Yes, sandy silty clay soils.

Class I stream drainage Yes, Class I Missouri River.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☒ Closed mud system

☒ Off-site disposal of solids/liquids (in approved facility)

☒ Other: 36.22.1005 offsite disposal of drilling waste and fluids required.

Comments: 1585' of surface casing will be set well below freshwater zones in adjacent water wells. Also, covering Base of the Fox Hills aquifer. Surface hole will be drilled with freshwater and freshwater muds to 1585'+. Steel surface casing will be run and cemented to surface from 1585'.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: No, location will require small cut, up to 0.4' and small fill, up to 0.3', required.
Loss of soil productivity: Slight, location to be restored after drilling well if well is nonproductive. If productive unused portion of wellsite will be reclaimed.
Unusually large wellsite: No, location is a large wellsite, 350'X420' in size.
Damage to improvements: Slight, surface use is flood irrigated fields.
Conflict with existing land use/values: Slight

Mitigation

- ☐ Avoid improvements (topographic tolerance)
- ☐ Exception location requested
- ☒ Stockpile topsoil
- ☐ Stream Crossing Permit (other agency review)
- ☒ Reclaim unused part of wellsite if productive
- ☐ Special construction methods to enhance reclamation
- ☒ Other: Requires DEQ General Permit for Storm Water Discharge Associated with

Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county roads. About 519' of new access road will be built off the existing county road into this location. Rule 36.22.1005, oil based drilling fluids will be recycled. Oil based drill cuttings will be hauled to an approved offsite disposal. Completion pit fluids will be hauled to a permitted Class II saltwater disposal. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Residences about 3/8 of a mile to the northwest and north northeast from this location.

Possibility of H2S: Slight to none.

Size of rig/length of drilling time: Triple drilling rig 25 to 35 days drilling time.

Mitigation:

- ☒ Proper BOP equipment
- ☐ Topographic sound barriers
- ☐ H2S contingency and/or evacuation plan
- ☐ Special equipment/procedures requirements
- ☐ Other: _____

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems. Noise should not be a problems, sufficient distance from residence to rig should mitigate this.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified in the area.

Proximity to recreation sites: None identified in the area.

Creation of new access to wildlife habitat: None

Conflict with game range/refuge management: None

Threatened or endangered Species: Listed threatened or endangered species are Pallid Sturgeon, Piping Plover, Interior Lease Tern and Whooping Crane.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Private cultivated surface lands. If productive well location should be built up and diked around location to prevent any runoff of produced fluids. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: About 2 miles to the southeast is the Fort Union Trading Post National Historic Site and about 3 mile to the southeast is the Fort Buford State Historic Site. All these historical sites are across the state line in North Dakota.

Mitigation

☐ avoidance (topographic tolerance, location exception)

☐ other agency review (SHPO, DSL, federal agencies)

☐ Other: _____

Comments: Private cultivated surface lands at this location. All historic sites are distant enough to not have visual impact.

Social/Economic

(possible concerns)

☐ Substantial effect on tax base

☐ Create demand for new governmental services

☐ Population increase or relocation

Comments: Well is a wildcat well and may not be productive. Even if productive should not create any substantial effect on the tax base. No concerns.

Remarks or Special Concerns for this site

13,971' MD/10,217' TVD single lateral horizontal Bakken formation well.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected, only some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: April 6, 2010

Other Persons Contacted:

(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center website.

(subject discussed)

Water wells in Roosevelt County

(date)

February 9, 2010

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Roosevelt County, Montana

(subject discussed)

February 9, 2010

If location was inspected before permit approval:

Inspection date: February 10, 2010

Inspector: Robert Schmidt

Others present during inspection: None